

IN ILLINOIS.

By CLARENCE J. ROOT, Meteorologist.

[Weather Bureau, Springfield, Ill.]

Destructive tornadic storms occurred in Illinois on April 16-17, and in Indiana on the 17th, causing in Illinois 7 deaths, the injury of 53 persons, and property losses estimated at \$295,000. The 7 p. m. weather map of April 16 shows a center of low barometer (29.46 inches) at Amarillo, Tex. At 7 a. m. of the 17th the principal center (29.48 inches) had moved to Toledo, Ohio, with secondary centers in Missouri and northern Illinois. At that time the winds were northerly in the northwest part of the State and southerly in the other areas, with all stations reporting thunderstorms during the night. The rainfall exceeded 2 inches at St. Louis and Terre Haute. By the evening of the 17th the center of disturbance had moved to Lake Huron. Illinois was directly in the path of the low pressure area.

The first tornado had its inception near Oakdale Washington County, probably about 11 p. m. of the 16th. It moved due northeast in a remarkably straight line across Washington County, passing through the extreme northwest corner of Jefferson County, then through Marion, Clay, Effingham, southeast corner Jasper, and Clark Counties, ending near the Indiana line about 6 miles west of Terre Haute.³ From reports received it is evident that the storm passed through Washington, Jefferson, and Marion Counties during the hour preceding midnight of the 16th. It appeared in Jasper County in the hour immediately following midnight, and then moved on across Clark County. There was ample evidence of true tornadic action. The width of the path of destruction varied considerably, but as a rule was less than 600 feet.

The first damage occurred at Nashville, where a power house was unroofed, a number of trees were uprooted, and there was considerable damage of a minor nature. The storm moved on to Irvington, doing some damage before reaching the town. The public school, about six residences, and many outbuildings were destroyed, and several business buildings and a number of residences were badly damaged. The losses in Washington County are estimated at \$100,000. The tornado then passed into the northwest corner of Jefferson County, damaging and destroying farm homes and properties in its passage. A church and school were destroyed in Jefferson County. The path then led through Marion County, where damage totaling \$14,000 was sustained.

An infant was killed at Irvington, and three lives were lost in the country east of the town. About 15 persons were injured in Irvington and in the country adjoining. In the next 40 miles of its course the destruction was rather limited, perhaps due to the storm lifting at times. The losses in Clay County were estimated at but \$2,000. There was damage at one farm place in Effingham County, and in the western part of Jasper County a barn was demolished and a house was unroofed. Severe damage began again at the edge of Rose Hill, Jasper County. The tornado then moved northeast through the country, damaging and destroying farm properties. In Jasper County two rural churches and at least three homes were completely destroyed, other residences were damaged, and much other property was damaged or destroyed. One man was killed in this neighborhood. One person reports the approach of the tornado as "an onrushing, roaring mountain of inky blackness, light beneath, accompanied by constant flashes of lightning." A correspondent reports the following freaks of the storm:

³ About 130 miles.—EDITOR.

Pieces of timber were stuck in the ground like fence posts; shingles and straws were sticking into trees; a piece of 2 by 4 was found imbedded several inches in a tree; roofs of some buildings were carried more than a mile; poultry surviving the storm were practically destitute of feathers; ends were blown out of houses, but pictures were left hanging on the walls in the same buildings; trees nearly 2 feet across were twisted off close to the ground; in many places grass growing in the fields was blown away and the ground left bare; many frail buildings directly in the tornado's path were left standing, while strong buildings nearby were completely wrecked; adjoining trees and buildings were blown down in opposite directions; in some buildings they seemed to explode outward as if caused by the internal pressure of the air.

In Jasper County there was one death, 10 persons were injured, and the property loss was \$50,000. The storm moved diagonally across Clark County, through the rural sections, injuring 10 persons in that county and inflicting a loss to property estimated at \$88,000. This tornado caused the death of 5 persons, the injury of 47, and an estimated property loss of \$275,000.

Another tornado occurred in the afternoon of April 17, being first seen just northwest of Odgen in the eastern part of Champaign County at about 3:30 p. m. It moved east through Fithian at 3:45 p. m., then curved northeastward, and passed 3 miles to the southward of Bismarck about 4 p. m. This storm crossed Vermilion County and passed into Indiana, being confined entirely to rural districts until it struck the town of Hedrick in Indiana. It appears that the tornado crossed Indiana and moved some distance into Ohio. All reports indicate the presence of a funnel-shaped cloud. It is probable that the tornado lifted at times, as there were places in its path where no damage was reported. The tornado traveled across country at a rate of about 40 miles per hour, this being the velocity of translation of the Mattoon tornado of May, 1917. At Odgen and Fithian the width of the path of great destruction was reported to be 250 to 300 feet. In Champaign County there were two deaths, and five persons were injured, the deaths occurring 2 miles north of Odgen. One person was injured in Vermilion County. A conservative estimate of the property loss from this storm, in Illinois, is \$20,000.

IN INDIANA.

TRUMAN G. SHIPMAN, Meteorologist.

[Weather Bureau, Indianapolis, Ind.]

Tornadoes occurred Monday, April 17, 1922, in Indiana and other States of the Ohio and middle Mississippi Valleys in connection with a trough-shaped area of low pressure which extended from the upper Lake region southward to Texas and moved slowly eastward during the 24 hours following 7 a. m., Monday. The tornadoes appearing in Indiana during this period probably crossed from Illinois. The first one struck southwestern Parke County⁴ about 2 a. m. and wrought damage estimated at \$10,000, but injured no one. About one-half hour later, the second one appeared a few miles southwest of Williamsport, Warren County, killed one person and damaged property to the extent of \$50,000. At 3 p. m., Brook, Newton County, was hit, and two persons were killed and one other was injured and property worth \$6,000 was destroyed.

At about 4 p. m. the third and principal tornado,⁵ apparently after having traveled 35 miles in Illinois, entered Warren County, 5 or 6 miles northwest of Attica, and worked destruction on the country near Hedrick, Sloan, Williamsport, and Attica. Rotary winds, a funnel-shaped cloud, with the attendant roar, a narrow path of total destruction, and instances of buildings exploding

⁴ Probably the Washington County, Ill., tornado.—EDITOR.⁵ Probably the Odgen, Champaign, Ill., storm—see preceding article.—EDITOR.

from within, carrying the walls outward, were observed during the storm and were reported. During the comparatively short time of passage it killed 11 persons and injured 30 or 40 others and damaged property estimated in value at \$150,000 to \$200,000. The path of the storm extended nearly from west to east, with a slight northeasterly trend and varied in width from a few feet up to a half mile, although the path of greatest destruction averaged only 100 yards in width and varied as the tornado cloud rose and fell during its progress. The length of the path at this point could not be fixed definitely but from the data available it was estimated at 8 miles.

This storm appeared again at 6 p. m. in Madison County, about 125 miles east of the point of its first appearance in Indiana. The direction of progress, the sequence in time, and the characteristic of these storms in skipping stretches of country in their progress point to the conclusion that this was the same storm which appeared earlier, although such material evidence as was present in the incident described below was lacking in this instance. The path extended from Orestes, Madison County, to Wheeling, Delaware County, a distance of 25 miles to the northeast, and averaged about one-half mile in width. The storm was observed also at Alexandria and near Summitville, and after passing Wheeling it seemed to widen out and became rather a general wind storm. The diameter of the tornado cloud was estimated by observers at 100 yards, but probably was less than this near the ground. Three persons lost their lives, about 25 others were injured, and property was damaged to the extent of \$100,000 to \$150,000 in the progress of the storm across this section of the State.

The following item appeared in *Indiana Daily Times* of April 24, 1922, and the facts were afterwards verified by correspondence with the postmaster at Orestes, Ind. It is submitted as an interesting phenomenon in connection with the study of this storm. Mount Cory, Ohio, is 124 miles from Orestes, Ind., according to the mileage along the Lake Erie & Western Railroad, and lies in a somewhat northeasterly direction.

When the home of Mrs. Bessie Porter in Orestes was destroyed by a tornado, Monday night, April 17, a picture post card was picked up from the ruins and carried with the tornado. The post card has been returned to the postmaster at Orestes, coming in a letter from J. O. Kistle, of Mount Cory, Ohio. In the letter Mr. Kistle stated a tornado struck a short distance south of his home on the morning of April 18 and he found the card lying on the ground while on his way to work. The card, which showed a view of Hartford City, Ind., was torn at one corner, but otherwise was in good condition. Mrs. Porter said that it was one of several that she had in an album at her home.

Other storms, violent in character, also occurred at Corydon, Jasper, and near Stinnesville on this date, but judging from all available reports were not true tornadoes.

IN OHIO.

By W. H. ALEXANDER, Meteorologist.

Apparently the first of these local storms to assume tornadic form and force occurred on the afternoon of the 10th and seemed to start at or near Riverside (formerly Harshmanville), $3\frac{1}{2}$ miles northeast of Dayton, and moved in a northeasterly course, touching the extreme northwest corner of Greene County, crossing Clark County, into and perhaps across Champaign County, finally dissipating either in Union or Delaware County. This storm seems to have been a real tornado, as quite a number of persons report seeing the "funnel-shaped cloud," and the destruction wrought indicates a storm of this kind.

Mr. W. J. Moxom, official in charge of the Weather Bureau office, Dayton, Ohio, makes this observation:

I observed a very peculiar cloud passing over Dayton just a few minutes before the time of destruction at Harshmanville. This cloud was

very black in parts and gray in others and was at an elevation of approximately 1,000 feet. It was moving very fast and rolling violently. I am inclined to believe this was the cloud that developed into a tornado immediately after passing over Dayton to the higher ground northeast of the city.

Mr. Moxom also furnished the following account of this tornado by an eyewitness, Mr. Charles E. Semler, 1204 U. B. Building, Dayton, Ohio.

I was driving in my machine from Fairfield to Dayton along the Dayton-Springfield pike on April 10, and about 4.45 p. m., just after leaving Fairfield, I noticed a very peculiar shaped cloud in the southwest. This cloud was approaching very rapidly and was very black. At very short intervals it would reach to the ground and when touching the ground had the regular funnel shape. I stopped my machine in order to avoid being in its path and it crossed the pike about one-half mile from where I was stopped. There was not much roar that I noticed, but it was whirling violently, and I noticed some few parts of debris in the upper outskirts of the cloud. I went over the scene of destruction the next morning. On the John Mays farm it destroyed a large barn and unroofed the large brick residence. On the Will Mays farm, about one-eighth mile to the northeast, it unroofed the barn and frame dwelling house. There was some damage on the Gross farm.

In the woods on the Miami Conservancy land south of the pike the storm cut a path about 150 feet wide through the timber, uprooting some trees and breaking other large trees off several feet from the ground.

Other and very reliable details concerning this tornado may be found in newspaper clippings, from which it appears that one person was killed by the collapsing of a barn, another by lightning, quite a number were more or less seriously injured, and property variously estimated from \$100,000 to \$200,000 destroyed.

Another tornado occurred during the evening (about 8 o'clock of the 17th) in the northwestern part of Auglaize County, doing its greatest damage apparently in the vicinity of Buckland. This storm seems to have originated in Noble Township, moved northeast, and dying out in the vicinity of Hume, in the southern edge of Allen County. While no human life was lost so far as known, a number of people were injured and very considerable property was destroyed.

A comparison of the daily weather maps of the 7th, 10th, and 17th reveals a very striking similarity in the pressure distribution that seems to have brought about these stormy days in Ohio. On each day there was a barometric trough extending from the Lake Region southwestward to Texas or the upper Rio Grande Valley; in two cases, the 7th and 17th, the major center was in the northern end of the trough and on the 11th in the southern end.

IN ALABAMA, MARCH, 1922 (DELAYED REPORTS).

[Abstracted from a report by P. H. SMYTH, Meteorologist.]

Two small tornadoes were observed in Cullman County, Ala., both of which traversed almost identical paths for a short distance. The first occurred on March 14 in the evening; it was lacking in violence and quickly dissipated. The second was a more fully developed storm; its path can be traced from Crane Hill, 15 miles southwest of Cullman, to that town, thence northeastward, crossing Morgan County and probably passing into Madison County. Three persons injured, no lives lost, property loss \$100,000.

A third tornado was observed at Salem, Lee County, about dark March 19. It moved thence eastward, increasing in violence, and, passing over the small village of Wacooche Valley, demolished a church, store, and three dwellings. At Goat Rock, east of Salem, a transmission tower was blown down and two persons were killed. The path of greatest destruction was about 200 yards wide in places; there was some hail, not much rain, and vivid lightning.